Kuskokwim River Salmon Assessment Update: 6/6/2017

This document presents the key assessment information considered by managers in-season. The production of this document is a collaborative effort between the ADF&G and USFWS. **All data and analyses contained are preliminary and are subject to change, so please make interpretations carefully**.

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Table of Contents:

Abbreviations:

- BTF: Bethel Test Fishery
- ATF: Aniak Test Fishery
- CPUE: Catch-per-unit-effort
- EOS: End-of-Season

To view escapement information, please visit the ADF&G Kuskokwim River Fish Counts page:

- http://www.adfg.alaska.gov/index.cfm?adfg=commercialbyareakuskokwim.salmon#fishcounts

For the most up-to-date information regarding fishing opportunities please visit:

- **USFWS:** https://www.fws.gov/refuge/yukon_delta/wildlife_and_habitat/dailyupdate.html
- **ADF&G:** http://www.adfg.alaska.gov/index.cfm?adfg=cfnews_mobile.main

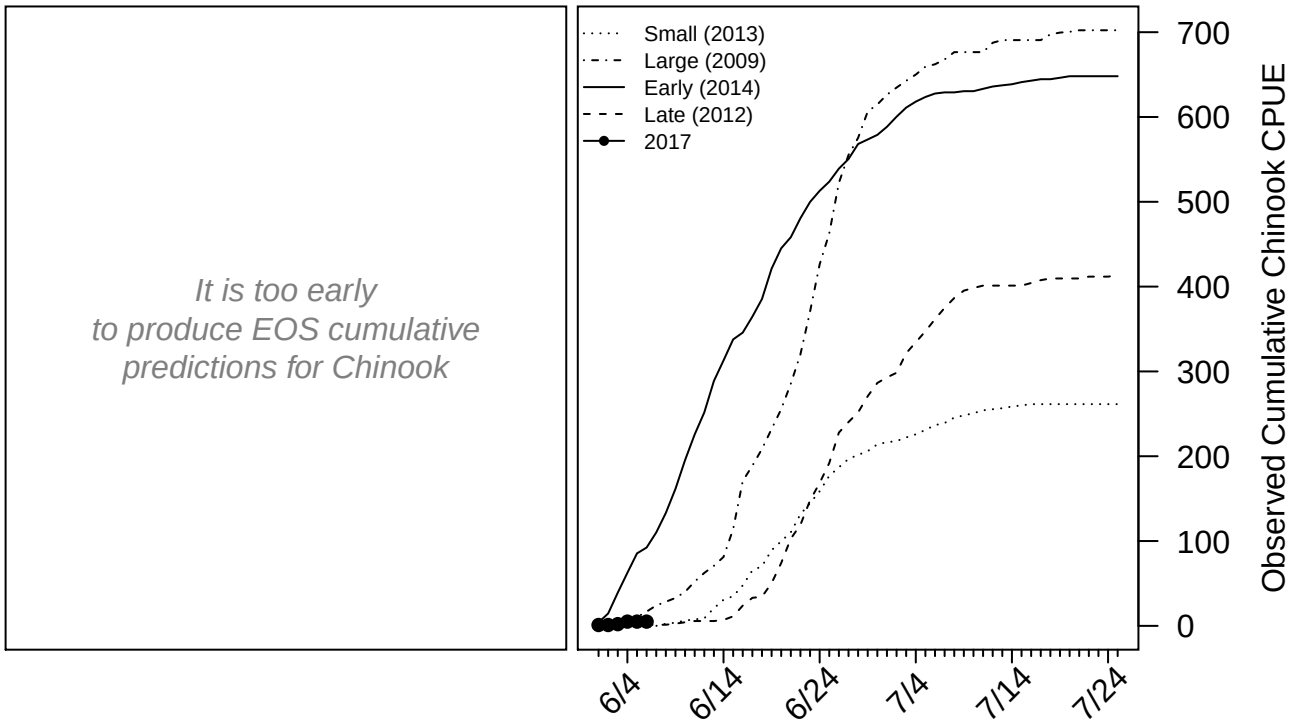
Sonar Update

The Kuskokwim River sonar project began partial operations on June 1 and full operations on June 3. Estimates of salmon abundance based on the sonar will be included in this document once more catch information becomes available.

Chinook (6/6)

- The BTF daily CPUE was **0**.
- The BTF cumulative CPUE is **5**.
- **33%** years since 2008 fell below this cumulative CPUE.
- **5%** of the run is complete based on historical average run timing.
- **6%** of the run is complete based on a preliminary run timing forecast (official forecast will be available around 6/10).
- Late run scenarios are considered highly unlikely at this time due to the preliminary timing forecast (1.4 days early).
- **6 - 9%** of the run is expected to pass in the next 5 days.
- Over the last 3 days, Chinook salmon made up **50%** of the BTF catches, compared to **59%** on averge.

Chinook Figure 1. *Left*: will show predicted cumulative EOS BTF CPUE according to various run timing scenarios when enough data have been collected. *Right*: The cumulative BTF CPUE from 2017 plotted along with four previous years intended to represent a range of early/late and small/large index values.

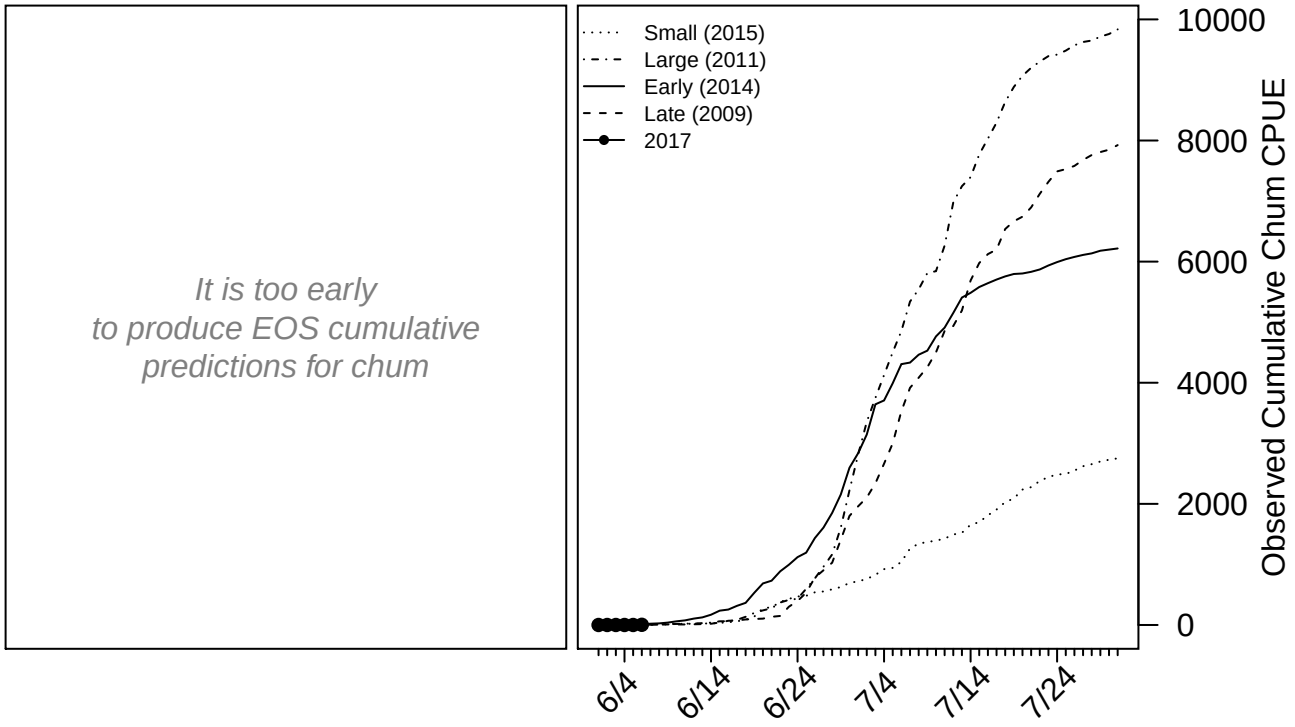


For more detailed information, see the Chinook appendix at the end of this document.

Chum (6/6)

- The BTF daily CPUE was **3**.
- The BTF cumulative CPUE is **3**.
- **56%** years since 2008 fell below this cumulative CPUE.
- **1%** of the run is complete based on historical average run timing.
- No run timing forecast is available for chum salmon.
- **1%** of the run is expected to pass in the next 5 days.
- Over the last 3 days, chum salmon made up **50%** of the BTF catches, compared to **35%** on averge.

Chum Figure 1. *Left*: will show predicted cumulative EOS BTF CPUE according to various run timing scenarios when enough data have been collected. The dashed horizonatal line shows the EOS value from 2016. *Right*: The cumulative BTF CPUE from 2017 plotted along with four years intended to represent a range of early/late and small/large index values.

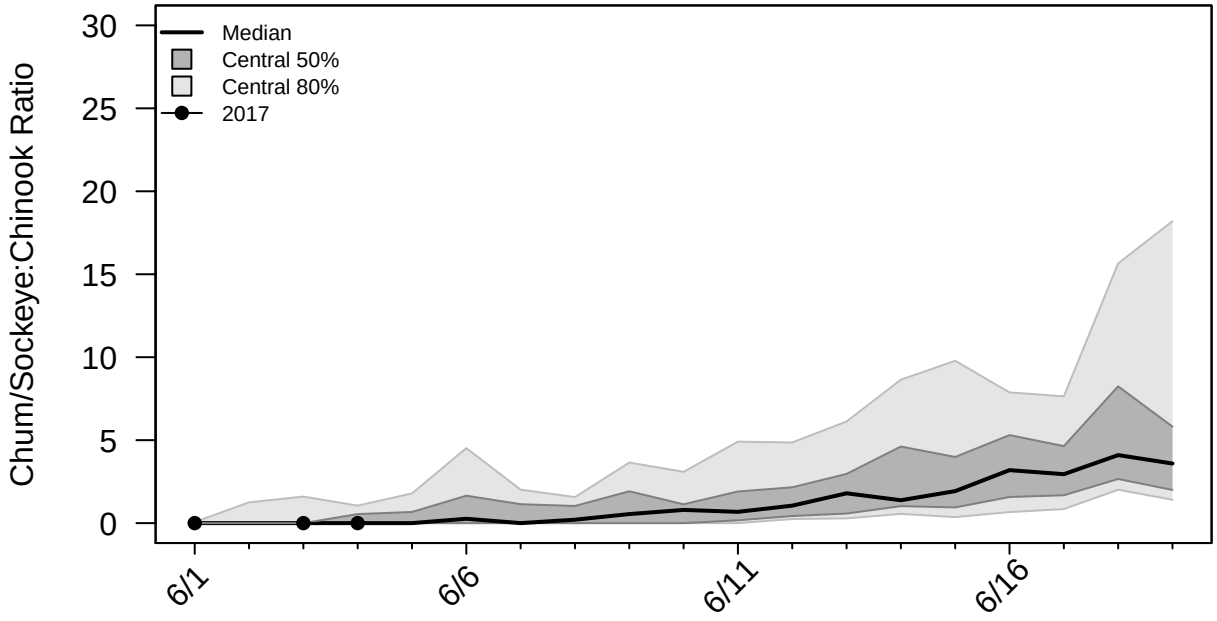


For more detailed information, see the chum appendix at the end of this document.

Chum/Sockeye:Chinook Ratio

This ratio is calculated by dividing the total number of chum and sockeye counted by the number of Chinook counted by a project. A value of zero indicates Chinook were counted, but not chum or sockeye. A missing value on a day the project operated indicates no Chinook were counted.

Ratio Figure 1. Time series of the species ratio with historical quantiles shown as grey regions and the ratio time series for 2017 shown with points connected by lines.



Ratio Table 1. A subset of the species ratios displayed in **Ratio Figure 1**, including the ratios from the sonar project and ATF.

Date	2017 BTF	BTF Median	BTF Lower 10%	BTF Upper 10%	2017 Sonar	2017 ATF
6/3	0	0	0	1.6	–	–
6/4	0	0	0	1.06	–	0
6/5	–	0	0	1.79	0	–
6/6	–	**0.26**	**0**	**4.52**	**0**	**0**
6/7		0	0	2.02		
6/8		0.21	0	1.57		
6/9		0.54	0	3.65		

Ratio Table 2. The probability that a given species ratio will be exceeded by a certain day in the BTF (calculated based on all previous years: 1984 - 2016).

Date	Ratio > 1	Ratio > 3	Ratio > 5	Ratio > 10	Ratio > 20
6/3	0.09	0.03	0.03	0	0
6/4	0.12	0.03	0.03	0	0
6/5	0.27	0.09	0.03	0	0
6/6	**0.42**	**0.18**	**0.09**	**0**	**0**
6/7	0.52	0.21	0.09	0	0
6/8	0.58	0.24	0.09	0	0
6/9	0.7	0.3	0.09	0.03	0.03

Chinook Appendix

Chinook Table A1. Cumulative CPUE from the BTF.

Date	2017	2016	2015	2014	2013	5-Yr Avg.	2008 - 2016 Avg.
6/3	2	31	14	39	0	17	11
6/4	5	40	20	63	0	25	17
6/5	5	53	24	85	0	33	23
6/6	**5**	**60**	**35**	**92**	**0**	**38**	**28**
6/7		78	53	110	0	48	36
6/8		89	60	133	2	57	44
6/9		114	76	162	4	72	54
EOS		681	625	650	261	527	556

Chinook Table A2. Cumulative CPUE from the ATF.

Date	2017	2016	2015
6/3	0	182	38
6/4	8	234	64
6/5	8	251	64
6/6	**24**	**300**	**64**
6/7		344	81
6/8		397	98
6/9		466	115
EOS		2,729	2,916

Chinook Table A3. Percent of run complete according to various historical run timing scenarios and the preliminary 2017 run timing forecast (with forecast uncertainty).

Timing	Historical Midpoint	Historical 6/6 Cumulative %	Forecasted Midpoint	Forecasted 6/6 Cumulative %
Earliest	6/15	17%	6/15	19%
Early 10%	6/18	11%	6/17	13%
Early 25%	6/21	8%	6/19	9%
Median	6/23	5%	6/21	6%
Late 25%	6/24	3%	6/23	4%
Late 10%	6/26	2%	6/25	2%
Latest	7/3	0%	6/27	1%

Chum Appendix

Chum Table A1. Cumulative CPUE from the BTF.

Date	2017	2016	2015	2014	2013	5-Yr Avg.	2008 - 2016 Avg.
6/3	0	0	0	8	0	2	1
6/4	0	0	0	11	0	2	2
6/5	0	0	0	14	0	3	3
6/6	**3**	**3**	**3**	**14**	**0**	**4**	**4**
6/7		3	15	21	0	8	6
6/8		16	15	26	0	12	9
6/9		16	18	39	0	15	12
EOS		4,001	2,945	6,343	5,708	5,178	6,508

Chum Table A2. Cumulative CPUE from the ATF.

Date	2017	2016	2015
6/3	0	5	0
6/4	0	5	9
6/5	8	5	9
6/6	**8**	**5**	**9**
6/7		12	17
6/8		12	17
6/9		19	17
EOS		5,304	5,669

Chum Table A3. Percent of run complete according to various historical run timing scenarios.

Timing	Midpoint	6/6 Cumulative %
Earliest	6/24	3%
Early 10%	7/1	2%
Early 25%	7/3	1%
Median	7/6	1%
Late 25%	7/7	0%
Late 10%	7/10	0%
Latest	7/12	0%